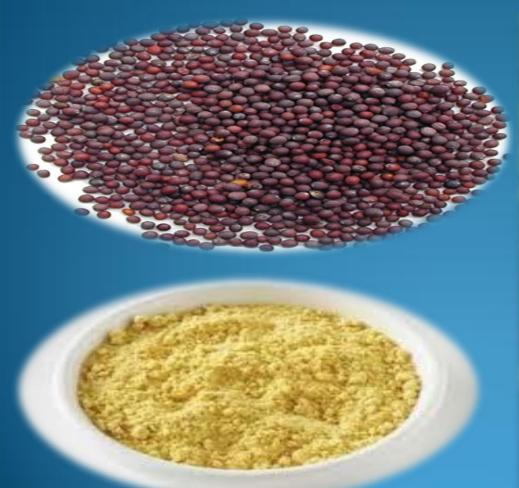
# Black Mustard





#### In This Search We Learn About:

- 1-Black Mustard Overview Information
- 2-Names(Scientific names & Common names)
- 3-Origin
- **4-Physical Characteristics**
- 5-Morphology
- 6-Constituents
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#### **Black Mustard Overview Information**

Black mustard is a plant. The seed and oil from the seed are used to make medicine.





Black mustard oil is used for the common cold, painful joints and muscles (rheumatism), and arthritis.

Black mustard seed is used for causing vomiting, relieving water retention (edema) by increasing urine production, and increasing appetite.

Some people make a paste by mixing ground black mustard seed with warm water. They pack the paste in cloth and apply the cloth directly to the skin as a "mustard plaster." This preparation is used for treating pneumonia, pain and swelling (inflammation) of the lining of the lungs (pleurisy), arthritis, lower back pain (lumbago), and aching feet.

In foods, black mustard leaves (greens) are used in salads and other dishes.

Also in foods, black mustard seed is used as a spice and to

flavor mustard condiment..



















How does it work?

There is not enough information available to know how black mustard might work for medical conditions. Black mustard contains chemicals that might initially reduce pain when applied to the skin. But contact with the skin for too long might cause skin irritation and burning.



# **Scientific Name**



Sinapis alba L. (white or yellow mustard), Brassica nigra L. Koch (black or true mustard), Brassica juncea L. Czern. et Cosson (oriental, leaf, or Indian mustard).

## Common Name

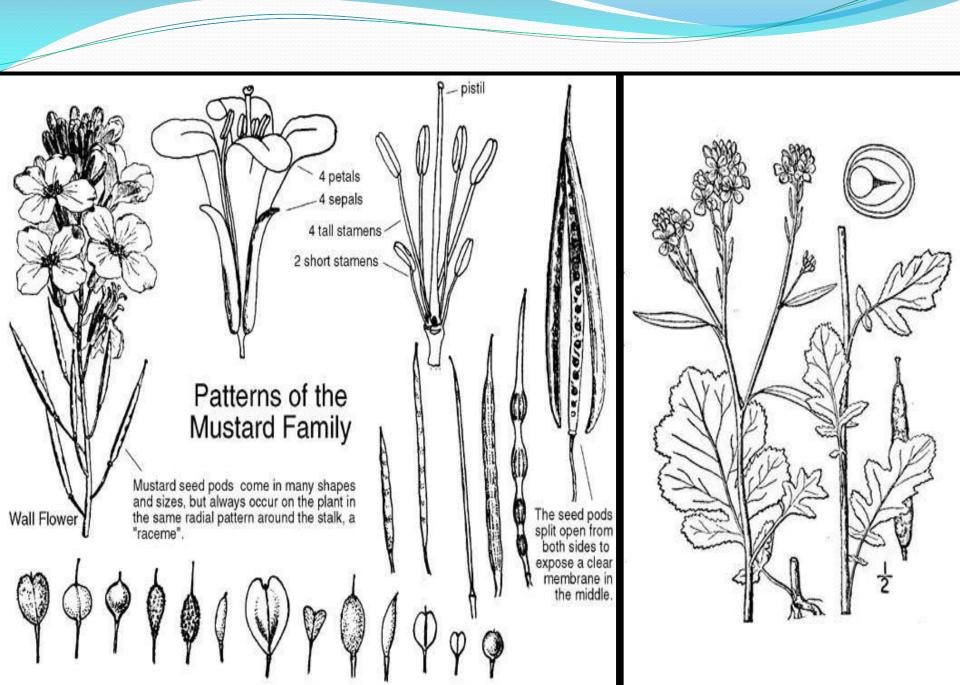
Mustard, black mustard, Indian mustard, leaf mustard, true oriental mustard, white mustard, yellow mustard



# <u>Origin</u>

The dried ripe seeds of brassica nigra..

Family: Curciferae/ Brassicaceae.



## **Physical Characteristics**

Brassica nigra is a ANNUAL growing to 1.2 m (4ft) by 0.6 m (2ft in).

It is hardy to zone 7 and is not frost tender. It is in flower from Jun to August, and the seeds ripen from Jul to September. The flowers are hermaphrodite (have both male and female organs) and are pollinated

by Bees, flies. The plant is self-fertile.





#### Suitable for:

light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils and can grow in very acid soils.

It can grow in semi-shade (light woodland) or no shade. It prefers moist soil. The plant can tolerate maritime exposure.







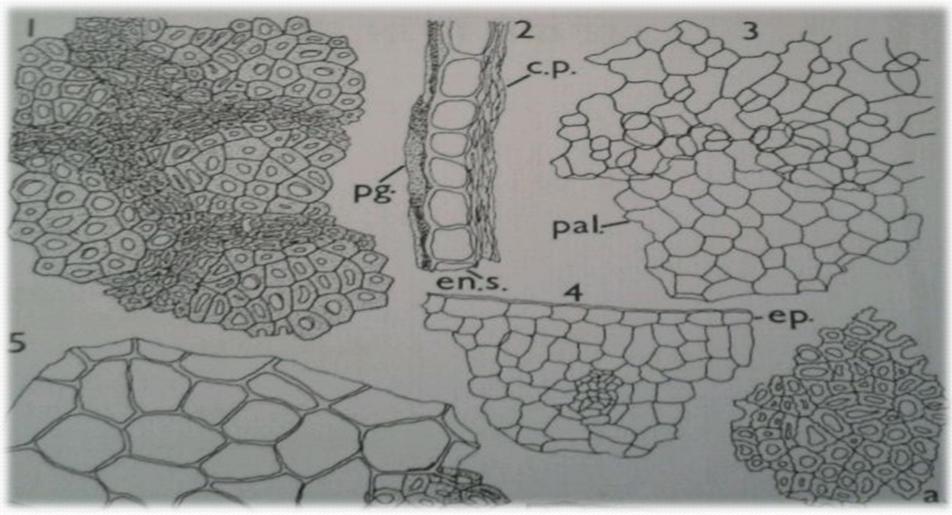




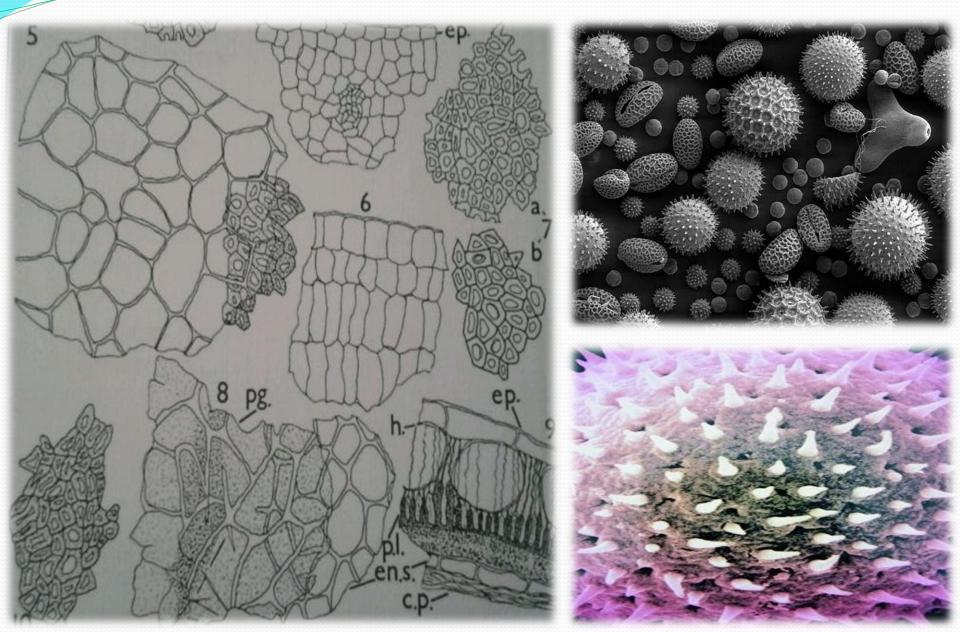
#### **Morphology**

- 1-palisade layer of the testa in surface view, seen from above, showing part of the network arrangement.
- 2-Endosperm layer (en.s.), in sectional view, with attached pigment layer of the testa (pg.) and underlying collapsed parenchymatous cells(c.p.).
- 3-Epidermis of a cotyledon in surface view showing developing stomata and part of the underlying palisadde (pal.).
- 4-Part of a cotyledon in sectional view showing the epidermis (ep.) and underlying mesopyll.
- 5-Endosperm layer in surface view with part of

The palisade layer of the testa, seen from below below,.



- 6-Parenchyma of the embryo.
- 7-Palisade layer of the testa in surface view.(a) seen from above and (b) seen from below.
- 8-Pigment layer of the testa (pg.) in surface view with part of the underlying endosperm (en.s.).
- 9-Part of the seed in sectional view showing the epidermis (ep.), hypodermis (h.), palisade layer(p.l.) and pigment layer of the testa, with undrlying endosperm (en.s) and collapsed parenchymatous layers (c.p.).
- 10-Palisade layer of the testa in surface view, from showing less uniform cells.



#### **Constituents**

Mustard seeds contain numerous chemical constituents, including phytoalexins (sinalexin, sinalbins A and B), sterols and steryl esters, and flavonoids (eg, apigenin). Crude mucilage from mustard has been analyzed and contains 80% to 94% carbohydrates, 1.7% to 15% ash, and protein.2.2% to 4.4%

The flavor of mustard seeds is derived from glucosinolates, which are thiocyanate glycosides, sinigrin is responsible for the sharper taste associated with black and brown mustard seeds.

sinigrin yields the volatile allyl isothiocyanate, which is responsible for the pungent aroma.

The fixed oil does not contribute to the mustard's pungency. The pungency is produced by glucosinolates.

#### **Black Mustard Uses & Effectiveness**

- 1-Common cold.
- 2-Painful joints and muscles (rheumatism).
- *3-Arthritis.*
- 4-Water retention (edema).
- 5-Loss of appetite.
- 6-Causing vomiting.
- 7-Pneumonia and painful lung conditions, when applied to the affected area as a "mustard plaster".
- 8-Aching feet, when applied to the affected area as a "mustard plaster".
- 9-Lower back pain, when applied to the affected area as a "mustard plaster".

Other conditions....



#### **Black Mustard Dosing**

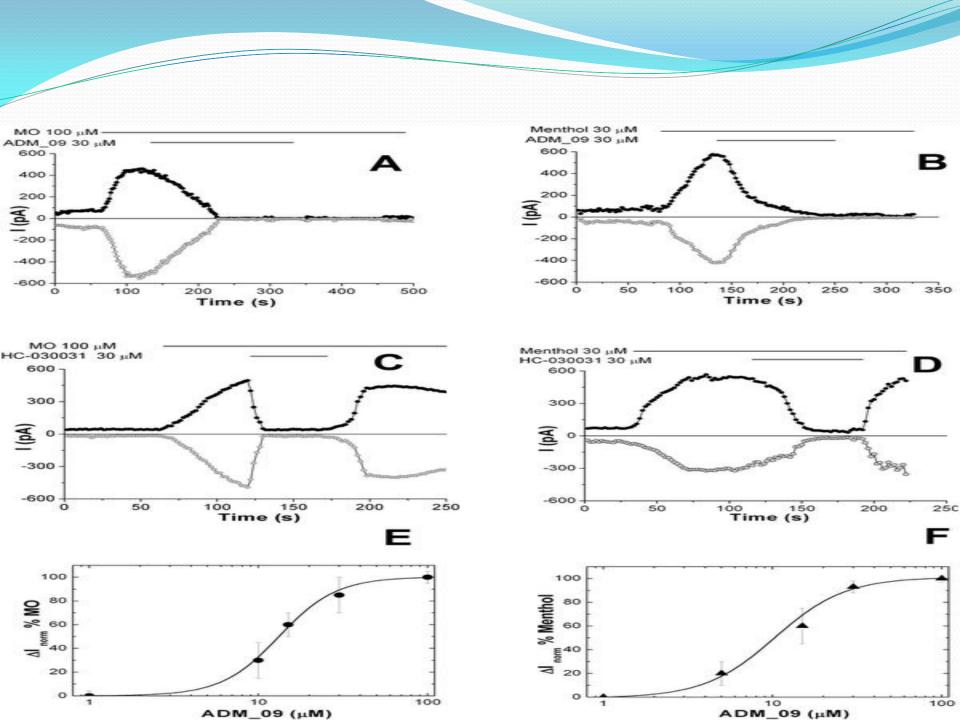
The appropriate dose of black mustard for use as treatment depends on several factors such as the user's age, health, and several other conditions. At this time there is not enough scientific information to determine an appropriate range of doses for black mustard. Keep in mind that natural products are not always necessarily safe and dosages can be important.

Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

# Limited clinical trials are available to guide dosage. Patients with suspected acute myocardial infarction received mustard oil 2.9 g/day orally.

Fungi	Concentration of oil (µl/L)						
	35.7	71.4	357	714			
Botrytis cinerea	100%	100%	100%	100%			
Alternaria alternata	50%	100%	100%	100%			
Rhizopus stolonifer	-	100%	100%	100%			
Penicillium italicum	-	100%	100%	100%			
Penicilliumdigitatum	-	100%	100%	100%			

	Abertings review as an extensive participation and these parties suppose section.		en canamora canama a consequente	to the order of the control of the c	emining/A (we've list or committee in contract A A A Analysis (a.c.)	and have been deposited by the last of the	Table 2					
THE RESIDENCE OF THE PROPERTY	Control (vehicle)	CYT-1010 i.v.			c bernarian in a salaria	The effect of the plant oils on some biological aspects after treatment of 4th larval instars of <i>Culex pipiens</i> , collected from						
		1 μg/kg	10 µg/kg	100 µg/kg	1000 µg/kg	Meit El-Attar, Qalyubia Governorate, Egypt						
f left	129.10	48.52	91.18	52.19	76.56	Plant oils conc.	Larval duration	Pupal duration	Pupation	Emergence		
f right	89.03	44.06	61.48	49.21	54.68	(ppm)	(Days ± SE)	(Days ± SE)	(% ± SE)	(% ± SE)		
2 left	99.63	33.73	77.24	80.28	63.41	Fenugreek 7.81	9.75 ± 0.32a	5.85 ± 0.27°	66.67 ± 0.41 <sup>b</sup>	87.10 ± 0.63 <sup>b</sup>		
2 right	92.07	63.04	87.67	71.20	55.85	15.63	$9.73 \pm 0.32^{\circ}$ $7.38 \pm 0.29^{\circ}$	$4.95 \pm 0.27$	$58.33 \pm 0.65^{\circ}$	$86.36 \pm 0.65^{\circ}$		
3 left	86.95	42.27	79.89	54.84	66.07	31.25 62.50	5.48 ± 0.25° 5.14 ± 0.12°	$3.99 \pm 0.08^{\circ}$ $3.05 \pm 0.13^{d}$	51.67 ± 0.48 <sup>a</sup> 33.33 ± 0.41°	56.25 ± 0.41 <sup>a</sup> 42.86 ± 0.48°		
3 right	74,19	3.46	77.63	83.92	85.40	125	$3.14 \pm 0.12^{\circ}$ $3.35 \pm 0.16^{\circ}$	$1.83 \pm 0.04^{\text{f}}$	$26.67 \pm 0.41^{\circ}$	$0.00 \pm 0.48^{\circ}$		
4 left	80.28	41.04	87.14	49.09	79.34	500 1000	$1.0 \pm 0.03^{\circ}$	$0.83 \pm 0.048$	$11.67 \pm 0.478$	$0.00 \pm 0.29^{t}$		
		reference on removal and research		The material state of the second state of the		Control	0.93 ± 0.03° 3.16 ± 0.06 <sup>d</sup>	$0.00 \pm 0.00^{h}$ $2.48 \pm 0.08^{o}$	6.67 ± 0.41 <sup>h</sup> 93.33 ± 0.41 <sup>a</sup>	0.00 ± 0.00 <sup>f</sup> 94.34 ± 0.48 <sup>a</sup>		
4 right	102.49	31.69	108,49	54.86	154.03	Earth almond	2.1.0 2 0.00		,,,,,,	y 110 1 <b>2</b> 0 110		
5 left	103.06	46.87	73.59	59.74	74.05	15.63	$6.71 \pm 0.24^{a}$	$0.75 \pm 0.06^{b}$	$76.67 \pm 0.65^{b}$	$70.00 \pm 0.41^{d}$		
5 right	129.17	49.44	65.69	88.54	88.00	31.25 62.50	6.66 ± 0.06 <sup>a</sup> 5.59 ± 0.05 <sup>b</sup>	0.82 ± 0.04 <sup>b</sup> 0.91 ± 0.04 <sup>b</sup>	60.00 ± 0.41° 41.67 ± 0.25 <sup>a</sup>	85.71 ± 0.41 <sup>b</sup> 84.21 ± 0.48°		
6 left	97.34	47.62	78.05	56.89	62.92	125	$3.50 \pm 0.10^{\circ}$	$0.50 \pm 0.04^{\circ}$	$23.33 \pm 0.65^{\circ}$	0.00 ± 0.29°		
A 1011	en e	41.02	10.03	JV.03	VL.3L	250	$1.12 \pm 0.02^{d}$	$0.00 \pm 0.00^{d}$	$11.67 \pm 0.25^{\text{f}}$	$0.00 \pm 0.25^{\circ}$		
6 right	120.26	77.51	94.66	75.00	55.80	500	$1.28 \pm 0.16^{d}$	$0.00 \pm 0.00^{d}$	5.00 ± 0.258	0.00 ± 0.00°		
7 left	109.70	53.72	36.25	56.81	67.62	Control Mustard	$4.00 \pm 0.41^{\circ}$	$2.05 \pm 0.13^{a}$	98.33 ± 0.48°	96.55 ± 0.65 <sup>a</sup>		
7 right	118.11	48.91	51.07	63.41	57.47	62.5	3.66 ± 0.1°	$1.75 \pm 0.06^{b}$	56.67 ± 0.65 <sup>b</sup>	55.56 ± 0.65°		
8 left	85.49	59.80	41.10	68.93	37.45	125 250	3.47 ± 0.11° 2.57 ± 0.16°	1.44 ± 0.02° 1.31 ± 0.06 <sup>d</sup>	26.67 ± 0.42° 16.67 ± 0.65 <sup>a</sup>	66.67 ± 0.65 <sup>b</sup> 50.00 ± 0.41 <sup>d</sup>		
	87.80			el man fyr rifer syn gen siffs (an) Twee Selven de reve Serven Charache ren de ren de sen de s	nontrol del mello del do cinera de la Sela de Carlo de Sela de Carlo de Sela de Carlo de Sela de Carlo de Sela	500	$2.56 \pm 0.06^{b}$	$1.24 \pm 0.04^{d}$	6.67 ± 0.41°	$0.00 \pm 0.25^{\circ}$		
8 right		65.26	46.38	49.74	46.10	1000	$2.10 \pm 0.04^{\circ}$	$0.70 \pm 0.20^{\circ}$	$1.67 \pm 0.25^{i}$	$0.00 \pm 0.00^{\circ}$		
Mean	100.29	47.31	72.34	63.42	70.30	Control	$3.93 \pm 0.15^{a}$	$2.05 \pm 0.13^{a}$	$98.33 \pm 0.63^{a}$	$98.25 \pm 0.75^{a}$		
SEM	4.24	4.14	5.13	3.25	6.55	- Conc. (ppm) means	s concentration (part per million) Mea	n within column followed by the same k	etter are not Significantly different (p >	0.05, Duncan's multiple range test).		



#### **Black Mustard Side Effects & Safety**

Black mustard is safe when eaten as part of a food such as mustard. But there is not enough information to know if it is safe to use black mustard as a medicine that is taken by mouth or applied to the skin.

#### Some side effects are known:

Taking large amounts of black mustard seed by mouth can damage the throat and can also cause other serious side effects including heart failure, diarrhea, drowsiness, breathing difficulties, coma, and death. When applied to the skin, especially for a long time, black mustard can cause skin blisters and skin damage.

# Special Precautions & Warnings:



Pregnancy and breast-feeding: It's UNSAFE to use black mustard in medicinal amounts if you are pregnant. Black mustard contains chemicals that might start your menstrual period and cause a miscarriage.



It's also best to avoid using black mustard as a medicine if you are breast-feeding. Not enough is known about the effects it might have on you or your nursing baby.

# **Contraindications O**

Avoid use in patients who are hypersensitive to mustard or related plant species. Topical mustard oil should not be used for massaging newborn infants.

Pregnancy/Lactation

#### **Drugs Contain This Plant**





### Prepared By:

